Responses To Comments On Valley Forge General Hospital Draft Feasibility Study

ORIGINAL (Red)

Comments by: Flaherty, USACE Baltimore District, CENAB-EN-G
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

In General (1)

Comment: Because of the length of the executive summary, it seems that a location map for the operable units (i.e., Figure 1-4) should be provided in this section. You have to search 70+ pages back to find out where these units are. Also, if specific surface samples and sediment samples are to be discussed, the Appendix containing locations should be noted. The same applies for the Exposure Areas. In general, providing notes describing chapters where specific issues are discussed would be helpful.

Response: Some figures have been added to the Executive Summary to aid the reader. Notes describing chapters where specific issues are discussed in detail have also been added.

In General (2)

Comment: It would be useful to have a copy of the figures provided in Chapter 4 provided in either Chapter 1 or Chapter 2. I found myself searching for them long before Chapter 4.

Response: Additional figures have not been added to Chapters 1 and 2. However, references to figures presented later in Chapter 4 have been added.

E-29 (3)

Comment: Based on the widespread nature and the high concentrations noted for the Boiler Plant OU on page E-13, it appears that removal of 3 cubic yards of metal contaminated soil would be inadequate. Verify calculations.

Response: The 3 cubic yard estimate was determined based on removing 6 inches of soil over a 5-foot x 5-foot area at each of six boiler plants. The soil to be removed

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was determined by examining which areas of soil exceeded ARARs for metals. The soil that exceeded ARARs was from shallow (top six inches) surface soil samples in the immediate vicinity of the smoke stack cleanouts for each boiler plant. However, to be conservative, the total estimated amount of soil to be removed has been increased to 25 cubic yards (one foot of soil over a 10-foot x 10-foot area at each boiler plant).

E-29 (4)

Comment: On Page E-11, the report notes the presence of dieldrin-contaminated groundwater. Quantities for treatment of this water are not included. Discuss why.

Response: Dieldrin was only detected in one monitoring well. Because the groundwater is moving through the ash material that has substantial capacity for absorbing contaminants such as dieldrin, and because after 30+ years, the contamination has not migrated from the landfill area, there is no need for treating this groundwater. The main concern for the landfill is to limit future leaching of contaminants and to limit direct exposure to the ash material.

E-29 (5)

Comment: Quantity of 720,000 gallons for contaminated water given for OU-2, Vehicle Maintenance Area, does not agree with quantity of 2.4 million gallons given on page 3-50, Table 3-11. Clarify. It is not clear how or why it went from 2.4 million to 720,000. Clarify. Has it been verified that no contaminated soil remains in the area. If so, where is this discussed?

Response: The correct number is 720,000 gallons. The 2.4 million gallons shown in Table 3-11 should be multiplied by 0.3, because the porosity of the soil has been assumed to be 30% (see page 11 of Appendix B). This correction has been made in the Final FS Report. A previous removal action removed the contaminated soil in this area. The removal action is described in detail in the Final RI Report.

Page 1-3 (6)

Comment: 1st Paragraph, last two sentences: Chapter 7 is the summary and conclusion. Chapter 8 has the references. List and describe Appendix A and Appendix B. An appendix containing the sampling results tables included in the Final Report would be useful.

Response: Agreed. In the Final FS Report, Appendices A and B show the sampling locations and sampling results. Appendix C shows the calculations.

Page 2-4 (7) ORIGINAL (Red)

Comment: Last paragraph, 5th sentence - There appears to be a large difference in hydraulic conductivity values noted. What is the purpose of averaging the values? Is this number used anywhere?

Response: The large difference in hydraulic conductivity values for the monitoring wells is due to the natural variability of water bearing fractures throughout the site. The average conductivity value was presented just to show an average value. The average conductivity value was not used in any calculations.

Page 3-12 (8)

Comment: OU-4 groundwater: Discussion on page E-12 indicates that off-site pond at SW-07 contained metals at greater than twice background maximums. Discuss the rationale for considering this insignificant.

Response: The pond that sample SW-07 was obtained from, receives most of its water from suburban runoff (Evergreen Acres subdivision). The elevated metals detected in this sample are attributed to the characteristics of the suburban runoff and not from the boiler plant operable unit. Consequently, no remediation for the water or sediment in this pond is warranted.

Appendix A (9)

Comment: Drawings for the sampling locations should be reproduced on a larger scale and folded. They are too difficult to read at scale provided.

Response: Where appropriate, scale for sampling location maps has been increased and produced on 11" x 17" paper.

Calculations: (10)

Comment: OU-2: Why was MW-8 chosen? Where are flow rates in the wells described? How can they treat 720,000 gallons (page 11) if they only treat 1344 gallons per year (page 5)? That's 500 years for treatment. This needs some rethinking.

Response: The reason why MW-8 was chosen for hydraulic calculations is that this well is located approximately in the middle of the contaminated plume and represents the hydrogeologic conditions of the surrounding area. Flow rates in the well are described in the Final RI Report. Based on the hydrogeologic information, it is

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estimated in the Final Report that the approximate time taken for the water to flow to the nearest drinking water well is over 2,000 years. Therefore, no imminent risk is anticipated either to humans or environment. Consequently, quarterly pumping was selected to provide for some removal of contaminated groundwater while still minimizing cost. However, based on this comment, the pumping rates for alternatives 2 and 3 have been revised to 12 hours of pumping daily. This will allow one pore volume of the contaminated groundwater (720,000 gallons) to be removed over a 30-year period.

Calculations (11)

Comment: I could find no information in the sampling results that would indicate the depth of contamination. None of the soil borings in the area appear to have been tested for metals. Six inches seems overly optimistic. SE-10 shows contamination present up to 1.5 feet. From a construction standpoint, 3 cubic yards from 6 sites is too low. Verify.

Response: See response to question number 3. Also, SE-10 contamination is not associated with the boiler plants. It receives runoff from Coldstream Pond and has had trash deposited in the Pond since the closing of VFGH.

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Responses To Comments On Valley Forge General Hospital
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Comments by: USACE Baltimore District
Planning Division Environmental Resources Branch
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

In General (1)

Comment: Planning Division recommends that the Final FS be printed as double sided text.

Response: The Final FS will be printed as double sided text.

In General (2)

Comment: A short paragraph should be included explaining the need for the additional OU, i.e., the boiler plants and easement road. Any new or potential environmental impacts will also need to be addressed.

Response: A short paragraph will be added to the Executive Summary and Section 2.2 explaining the need for the additional OU. Environmental impacts will also be addressed.

In General (3)

Comment: A review of the RI/FS for NEPA compliance will examine and evaluate proposed alternative actions for environmental remediation at VFGH. Although the Draft Feasibility Study contained a detailed description of the remedial technologies and the development of remedial alternatives, the impacts of these alternatives were not discussed. Until the impacts are discussed, only a partial analysis of compliance with NEPA is possible.

Section 6.0 contains the detailed analyses of the remedial alternatives for the four OU's. This section should also contain a description of the environmental impacts of these remedial alternatives, for example: potential noise impacts associated with the temporary construction activities; potential impacts to storm water or surface water due to temporary industrial activities; potential impacts to

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the community regarding human health and safety and socioeconomic resources; any potential impacts to geology and soils; and any irreversible and irretrievable commitment of resources.

Response: In the Draft FS Report, impacts of the retained remedial alternatives on human health and environment have been discussed in general terms. However, a description of the potential impacts of these remedial alternatives such as noise associated with the temporary construction activities, to storm water or surface water due to temporary industrial activities, to the community regarding human health and safety and socioeconomic resources, to geology and soils, and any irreversible and irretrievable commitment of resources are discussed in Chapter 6.0 of the revised Final Draft FS Report.

In General (4)

Comment: Environmental Baseline Information provided in the Final Remedial Investigation (Section 8.0, Ecological Assessment) was reviewed to determine its adequacy for evaluation of potential remediation impacts to local ecosystems.

In general the comments regarding Environmental Baseline Information dated 22 March 1993 on the Draft RI have been addressed adequately, either in the text of the revised document or in Appendix N, "Responses to Comments on VFGH Draft RI." However, for further clarification, Planning Division recommends that the majority of explanations used in Appendix N be stated in the text of the document as well. For example, the explanation addressing the comment regarding the lack of field investigation in the spring should be contained in the text.

Response: The following text was added to Section 2.5 of the FS Report: "Presently there does not appear to be a need to delineate these wetlands. However, if remedial activities require any work in the wetlands, delineation will be required as part of a USACE wetlands permit. These issues will be addressed in the Remedial Design."

The following text was also added to Section 2.5: "The ecologists responsible for the Ecological Risk Assessment live in the area and are thoroughly familiar with the local ecology and the variations in animal activity and plant succession induced by seasonal changes. These variations were considered during the development of the risk assessment and appropriate receptor biota and exposure pathways were evaluated. There are no anticipated disruptions of spring breeding activity that may result from remediation activities."

In General (5)

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Comment: Socioeconomic Resources are not addressed in the either document. It is recommended that these issues be addressed in the Final Feasibility Study.

Response: Socioeconomic Resources are not expected to be impacted by any of the retained remedial alternatives. Statements regarding the impact on socioeconomic resources have been added to Chapter 6.0.

In General (6)

Comment: Cultural resources are not addressed in either document. Planning Division prepared a memorandum, dated 12 March 1992, for the Deputy Engineer for Project Management regarding cultural resources at VFGH. Based upon a comparison of the location of the four Operation Units (OU) considered for remediation and the two known and potentially significant historic properties, it appears remedial activities will not impact these resources. However, the results of the Cultural Resources Survey and potential impacts to known, as well as unknown cultural resources, resulting from remedial alternatives will need to be addressed in the Final Feasibility Study.

Response: Cultural resources are discussed in Section 8.2.4 of the RI Report. There are no known historic culturally significant resources on the site. Therefore, cultural resources are not going to be impacted by the remedial activities. This has been discussed in Chapter 6.0 of the Final FS Report.

Responses To Comments On Valley Forge General Hospital Draft Feasibility Study

Comments by: Irene Ewald, Charlestown Township Supervisor
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number
In General	(1)

Comment: Supervisor Vincent G. King Sr., is scheduling a meeting with Everett Koop to obtain more assistance in assessing possible health risks, particularly with respect to:

a. The Hodgkins Disease cluster adjacent to and downwind of the incinerator site;

b. The possibility of heavy metal contamination for both groundwater and the tributary of the French Creek, which flows under the land fill site and is heavily fished downstream.

Response: a. Epidemiology studies for diseases such as Hodgkins Disease are not performed as part of a CERCLA-style RI/FS. In the RI/FS process, environmental data collected for the site are used to compute the human health risk posed by the chemicals detected. The human health risk assessment performed for VFGH determined that the risk from chemicals detected was within the limits accepted by the USEPA. The USACE is discussing the concerns regarding the Hodgkins Disease cases with the USAEHA and other government health officials to determine the appropriate action.

b. Elevated heavy metal concentrations were detected in the ash in the landfill. However, the metals appear to be strongly bound to the ash material and no elevated levels were detected in the groundwater from monitoring wells around the landfill or in the surface water or sediment samples obtained from the tributary to French Creek. Control of the landfill in the form of a cap will further reduce the potential for leaching of metals and will limit the potential for contamination in the groundwater and the tributary.

In General (2)

Comment: Supervisor John C. Martin Jr., is coordinating the response concerns between the Charlestown, Schuykill and East Pikeland Townships. He will communicate under separate cover.

Response: Responses to the comments from the other Townships will be prepared when received.

In General (3)

Comment: Supervisor Irene Ewald is coordinating the response concerns between the Valley Forge Christian College, the Phoenixville Area School District and the Townships.

Response: Responses to these comments will be prepared when received.

In General (4)

Comment: The concern is for the buildings which were transferred but those of which have not been used since base closing and require asbestos removal prior to demolition. It is proposed that the Army Corps take the responsibility for the asbestos removal and disposal so that the demolition and rebuilding can take place.

Response: The VFGH site falls under the classification as a formerly used defense site (FUDS). The congressional mandates for FUDS prohibit investigation of asbestos in buildings. Consequently, asbestos can not be investigated in the VFGH RI/FS. However, USACE has contacted the HQUSACE, GSA, and the Department of Education. The Army does not have any programs in place to remove asbestos from Formerly Used Defense Sites. The GSA disposed of the property to the Department of Education. The Department of Education has charge of the leases for the property and says asbestos is the responsibility of the lessor. Contact Mr. Peter Wieczorek at (617) 223-9321 for additional information.

In General (5)

Comment: There is an overall concern that after initially identifying issues related to the site that the data collection process became a process unto itself and focus on the issues has been lost. The credibility of the project is at stake and a refocus on the issues and a resolution of those issues is necessary.

Response: The RI/FS for VFGH was initiated in large part due to concerns raised by the public and local officials about the site. The RI/FS has followed the USEPA's

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CERCLA guidance. To ensure that focus on the relevant issues was not lost during the data collection and analysis for the site, significant public involvement during the RI/FS has been solicited. The Technical Review Committee (TRC) was established consisting of representatives of all the current land owners at the site and local, state, and federal government agencies. Additionally, regular public meetings have been held to discuss the progress of the project. All work plans, sampling plans, and study reports (including the Draft and Final copies of the Chemical Data Acquisition Plan, Site Safety and Health Plan, Photo-interpretation Report, and RI Report and the Draft FS Report) have been distributed to the members of the TRC and public for comment to ensure that the focus on the project objectives and issues is maintained. All comments have been resolved with the commentors and discussed with the TRC and the public. Issues that the community and local agencies feel that still need to be addressed will be examined and resolved by the USACE before this project is completed.

In General (6)

Comment: The desired outcome at the site is that the initial commitment of the Army Corps to make this site 100% clean be met so that the Valley Forge Christian College may be rebuilt on the front half of the property and that the park may be expanded to meet the growing needs of the community on the rear half of the property.

Response: The USACE can not certify that the site is 100% clean. The CERCLA RI/FS process is designed so that after remedial action is complete, human health and the environment are protected. This RI/FS focuses strictly on past government activities at the site. Consequently, any contamination that may have resulted from activities other than those associated with the government activities during the operation of the VFGH have not been investigated. This precludes the USACE from stating that the site is 100% clean. As previously mentioned, the congressional mandates under FUDS preclude asbestos from being investigated during the RI/FS. Additionally, since the ash landfill will apparently remain with some additional physical protection and institutional controls, it would again be impossible to say the site is 100% clean. The Pennsylvania Department of Environmental Resources (PADER) is the State's certifier for the remediation actions to protect the human health and the environment and the USACE is working with PADER to meet all applicable requirements for this site.

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Comments by: Karen Neely, Evergreen Acres Resident
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

Page 3-41, Figure 3-9, (1)
Page 2-37, Figure 2-5

Comment: The figures showing all wells within a 2 mile radius is grossly wrong. I have repeatedly pointed this out. There are other ways to get this information, as I suggested - cross referencing tax maps to the municipal water suppliers list of customers. I've done this. It works.

Furthermore, one of the wells missing from the above figures is located at 1146 Pothouse Road, owned by the McCardells. This was supposed to be DW-8, but the field crew sampled the wrong home, a home on municipal water.

I mentioned this at two meetings already. DW-8 should have been sampled at the right location when the mistake was realized.

Response: These comments were addressed in Appendix N of the Final RI Report. As stated in that response, well locations were obtained from Plate 1 of "Selected Ground Water Data, Chester County, Pennsylvania." Owner addresses of wells were not provided, thus WCFS had to rely on the accuracy of the maps in their publications. Some additional well locations made available to the USACE since the completion of the Draft RI Report were included in the Final RI Report. If additional well locations are made available to the USACE before finalization of the FS Report, they will be shown in the Final FS Report.

As stated in the Final RI Report, the house designated as sampling location DW-08 was on municipal water supply and not well water. The McCardells house that was on well water was not sampled. Based on surrounding groundwater data collected from domestic water supply and monitoring wells, it was deemed that the McCardells well would not exhibit any contamination. Consequently, it was decided not to sample the well water from that residence.

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In General (2)

Comment: A report of this length should never be single-sided, especially an environmental report - double sided please!

Response: The Draft FS report was copied on recycled paper. The Final FS Report will be double sided copied.

In General (3)

Comment: OU-1 Alternative #2 should be a clay cap. Alternative #2 is, in my opinion, the most appropriate as long as it is maintained properly - mowed, no trees allowed to grow, etc. Since this area has been uncapped all these years and no leaching has occurred, Alternative #3 is really overkill and costing us taxpayers an additional $400,000!

Response: In accordance with USEPA FS guidance, preferred alternatives will not be addressed in the report. However, this comment will be considered while preparing the Decision Document.

Page 6-8 (4)

Comment: OU-1 Alt. #2 (cont.): Monitoring should be done quarterly for metals, and any other potential leaching chemicals. Monitoring should not be for pesticides only. The frequency should be re-evaluated after the first year, if appropriate, reduce to annually, thereafter for 30 years.

Page 6-14 This comment also applies if Alternative #3 is chosen.

Response: It is agreed that groundwater samples from the monitoring should be analyzed for all potential leaching chemicals. The Final FS has been revised to reflect this and groundwater samples will be analyzed for VOCs, SVOCs, pesticides/PCBs, herbicides, metals, and dioxins/furans.

Chemicals in the ash in the landfill have been subjected to leaching without any type of cap for a period of over 30 years, and except for a small isolated occurrence of DDD, the groundwater has not been adversely affected. Consequently, for alternatives 2 and 3, the state will be consulted on an annual basis as to the frequency (e.g., annual instead of quarterly) and the need for future groundwater monitoring. The cost estimates for these alternatives were based on twenty years of quarterly sampling.

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Page 6-16 (5)

Comment: OU-2, Alt. #1 - no action - if this alternative is chosen, certainly in the earlier years (1-5) the sampling should be done quarterly, at a minimum, to determine seasonal variations. The sampling, to date, is limited.

Response: The groundwater flow in this area is very slow due to the low hydraulic gradient and the low hydraulic conductivity. Samples obtained during the RI field investigation from May and again in November of 1992 did not reveal any significant change in concentrations. Consequently, if this alternative is selected, the USACE still proposes to perform annual sampling.

(6)

Comment: If OU-2 Alt. #1 is not improved as mentioned, Alt. #3 is the most appropriate from an environmental standpoint since the contaminants would be destroyed instead of released to the air.

Response: If alternative 2 is selected, the treatment system will be designed and operated so that it meets the state's and USEPA's air emission limits that are set to protect human health and the environment. However, the preference for alternative 3 will be considered in the preparation of the Decision Document.

(7)

Comment: OU-3 Alt. #3 is, from an environmental standpoint, the best. Alt. #1, no action is unacceptable.

Response: The preference for alternative 3 will be considered in the preparation of the Decision Document.

(8)

Comment: OU-4 Alt. #2 is more appropriate than no action, and relatively inexpensive.

Response: The preference for alternative 2 will be considered in the preparation of the Decision Document.

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Responses To Comments On Valley Forge General Hospital
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Comments by: Russell Marsh, Baltimore District, USACE, HTRW Engineering Branch
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

Table 3-11 (1)

Comment: Table 3-11 Nature and Estimated Volumes of Contamination in each operable unit - Correct the amount of contaminated water in OU-2 to 720,000 gallons.

Response: The change has been made in the Final FS Report.

Section 4.0 (2)

Comment: Section 4.0 Identification and Screening of Technologies and Process Options.

a. Table 4-2 Potential Remedial Technologies and Process Options for Groundwater at Valley Forge General Hospital.
   1. Consider the effectiveness and implementability of a collection trench(es) and pump as a collection process option.
   2. Consider the effectiveness and implementability of a downgradient permeable trench containing a metal catalyst, such as iron fillings, to facilitate dehalogenation degradation of the solvent contamination.

b. Table 4-9 Evaluation of Process Options for Groundwater in OU-2. The effectiveness of groundwater recovery at this site is highly questionable. Reword to indicate such.

Response: (a) The suggested remedial alternative was evaluated. This evaluation process considered the use of pea gravel instead of a metal catalyst, because the concentrations of volatile organic compounds in water are not high enough to make the best use of the catalyst. This suggested alternative proved to be more expensive with no added advantage over the retained remedial alternatives. Consequently, it has not been added to the Final FS as a retained alternative, but it has been discussed in Chapters 3 and 4.

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(b) This table discusses only the process options and does not discuss groundwater recovery. However, the effectiveness with regards to the Institutional Control will be reworded in the Final FS Report.

Section 6.0 (3)

Comment: 6.0 Detailed Analyses of Remedial Alternatives

a. 6.2.2 OU-2 Vehicle Maintenance Facilities

1. Short Term Effectiveness - Reference the Base Line Risk Assessment that shows that there are no current risks.
2. Long Term Effectiveness - Reword the last sentence to indicate control by deed restrictions, and sampling of groundwater monitoring wells.
3. Reduction of Toxicity, Mobility or Volume - This paragraph has a very negative tone. Reword this paragraph, and expand upon the degradation by natural fate and transport.
4. Overall Protection of Human Health and the Environment - Considering the results of the Baseline Risk Assessment (no risk) the language of this section needs to be changed to reflect the potential risks.

b. 6.2.2.2 and 6.2.2.3 - Groundwater Extraction System

Using the estimated pumping rate of 1344 gallons per year (gpy) (Appendix B), and an estimate volume of contamination of 720,000 gallons (Appendix B), and assuming all contamination is removed (highly improbable), it would take approximately 530 years to remediate the site. Considering this, it is unrealistic to assume that the site may be remediated to the State's ARAR in just two years. If the site is not remediated in two years of intermittent pumping, the report recommends converting to continuous pumping. However, earlier the report sates that due to low well yields intermittent pumping is recommended. This seems to be a contradiction.

Considering the anticipated flow rate (1344 gpy), proposed storage tank volume (1000 gallons), and the associated retention time, most of the contamination would probably be in the vapor phase by the time the water was treated.

Finally, recent studies have concluded that pump-and-treat systems are generally not capable of remediating dense nonaqueous phase liquids (DNAPLs) contaminated ground, especially in low production wells. Considering all of this, groundwater pump-and-treat at this site, is not recommended.

Response: (a) 1. A reference to the Baseline Risk Assessment has been added to the Final FS Report.

2. The no action alternative includes groundwater monitoring. Therefore, the last sentence has been revised to include the control by deed restrictions.

3. This paragraph has been revised to read as: "There will be some reduction of toxicity, mobility or volume due to the degradation by natural fate and transport."

4. This paragraph has been revised to read as: "The no action alternative will not impact human health and the environment. As such there is no risk to the residents and the environment due to the contamination of groundwater. The time taken for the groundwater to reach the nearest potable well is estimated to be over 2,000 years. Therefore, the existing *no risk* situation from the groundwater continues to exist over an estimated period of 2,000 years."

(b) As a result of the comment, alternatives 2 and 3 have been revised to reflect extracting groundwater everyday (12 hours/day), assuming that there will be enough water to pump. With this extraction rate, the time needed to remediate one pore volume of groundwater was estimated to be 30 years. This is not a standard pump and treat remedial action and removal of one pore volume of contaminated groundwater will not result in complete removal of the contamination from the aquifer. However, since concentrations are relatively low in the groundwater (around 100 ppb or less) and because the contamination is in solution and not a DNAPL, the removal of one pore volume should reduce the contamination, and by the time the residual contamination reaches the nearest well (over 2,000 years), concentrations should be at background conditions.

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Comment: The Remedial Investigation and Design Section point of contact regarding these comments is Russell Marsh at (410) 962-2227.

Response: The point of contact is noted.

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Comments by: John P. Mahar, M.D., M.P.H., The County of Chester,
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

In General (1)

Comment: Since a number of local residents and officials are still concerned about the ultimate results, and particularly in light of the early Corps of Engineers (USACE) promises to provide a complete cleanup of those environmental problems attributable to the military's operation of the VFAGH facility, we suggest that the appropriate remediative approaches for each of the four major areas of concern (pp E40-41) must not just be examined, but must be properly evaluated, prioritized, and put into action.

Response: The USACE will follow the CERCLA guidance for performing an RI/FS and the proposed remedial alternatives will be prioritized and evaluated according to the USEPA's nine evaluation criteria that are designed to ensure that the selected remedy is technically feasible, protective of human health and the environment, state and public acceptance, satisfies Federal, state, and local ARARs, and is cost effective. Similar care will be taken during the implementation of the selected remedies to ensure that all federal, state, and local regulations and guidance are followed.

In General (2)

Comment: We are aware of the NAS/IOM position paper on Veterans Agent Orange - Health Effects of Herbicides Used in Vietnam and our Public Health Veterinarian/Epidemiologist, Dr. Russell, has reviewed the document. The CCHD has several problems with the wording and conclusions presented in that report and with their validity and application to this local situation. Nevertheless, it raises a serious issue in claiming to believe in an association between Agent Orange and Hodgkins Disease. Such an association appears not to be statistically significant, but for a prestigious national science group to report acceptance of such a trend or association creates issues that may not be disregarded. Such an association was not accepted, understood or believed at the time CCHD did its epidemiological investigation. It would not affect the results of our study - i.e.,

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that there was no demonstrable excess of Hodgkins Disease in the area. However, this new declaration, coming from official government and scientific agencies must now raise the question of risks and exposures and there may need to be a study to determine if the occurrence of Hodgkins Disease was higher in the exposed than the non-exposed. After all these years, such a study may not even be do-able. But, if it is do-able, it would need to be done in association with an agency at the State and/or federal level with the funding and expertise to design and carry it out.

The CCHD therefore feels that the Army needs to take a position on this recent publication's conclusions, and promptly respond accordingly. If such a follow-up study is indicated, it could be done in association with one of the agencies referenced above, or in association with a funded University or School of Public Health.

Response: The RI/FS for VFGH is being prepared according to CERCLA guidance. The CERCLA process does not provide for an epidemiology study. The CERCLA process is based on using environmental data obtained for the site and documented relationships between carcinogenic and non-carcinogenic risks from chemical concentrations found at the site to determine the potential threat to human health. The CERCLA process was followed and the computed health risks were within USEPA limits. The new position paper would not alter the baseline risk assessment results. Consequently, no changes to the Final RI or the Draft FS Reports are warranted as a result of this paper. However, the USACE is consulting with the USAEHA and other government agencies regarding this position paper and its applicability to the VFGH site.

Additionally, the position paper states that the observed cases of Hodgkins Disease were not associated with the dioxins present in Agent Orange, but were associated with the other components of Agent Orange and only dioxin and not Agent Orange was found at the VFGH site.

In General (3)

Comment: The CCHD suggests a Health Assessment review of the agents and elements found in the soil and water analyses by the USEPA and/or the ATSDR (we understand ATSDR now contracts these tasks out to the State Health Departments), both for completeness and everyone's peace of mind.

Response: Most of the chemicals detected at the site were found at concentrations near background levels. Human health risks calculated using USEPA's Risk Assessment Guidance and Risk Factors (e.g., reference doses) were within the USEPA's limits. Consequently, the USACE does not feel that a Health Assessment review is warranted for this site.

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In General (4)

Comment: We recognize that epidemiologic evaluation of environmental influences on small populations is a new and developing state of the art and that any findings should be evaluated in that light.

Response: As stated previously, the CERCLA process does not provide for epidemiology studies. Human health risks were calculated based on environmental data and found to be within USEPA limits. Consequently, no changes to the Final RI or Draft FS Reports are warranted at this time. However, the USACE is discussing the epidemiology aspects of this site with the USAEHA and other government agencies.

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Comments by: Katrina Stonorov Daly, Green Valleys Association
Response by: Woodward-Clyde Federal Services and Coordinated with USACE, Baltimore District

Paragraph, Page or Figure	Item Number

In General (1)

Comment: GVA requests that the USACE remove all asbestos in all buildings on this site. The army used asbestos and put it there. The army should take it away.

Response: The VFGH site is a formerly used defense site (FUDS) and consequently must be investigated according to the congressional FUDS mandates. Congress specifically prohibited asbestos from being investigated or removed under the FUDS program. Consequently, the RI/FS for VFGH can not address asbestos at the site. However, USACE has contacted HQUSACE, GSA, and the Department of Education. The Army does not have any programs in place to remove asbestos from Formerly Used Defense Sites. The GSA disposed of the property to the Department of Education. The Department of Education has charge of the leases for the property and says asbestos is the responsibility of the lessor. Contact Mr. Peter Wieczorek at (617) 223-9321 for additional information.

In General (2)

Comment: One year of monitoring groundwater at the ash landfill is not enough. Most likely the year following construction of a cover there will be no problems, so why monitor then? The problems will be in 10, 20 or 30 years. Monitoring should continue far into the future.

Response: The chemicals in the ash in the landfill have been exposed for uncontrolled leaching for a period of over 30 years. Over this period of time, only one, small impact on groundwater (DDD) by the landfilled material was detected. Consequently, the state will be consulted on an annual basis to determine the frequency (e.g., annual instead of quarterly) and need for future monitoring. However, the cost estimates for alternatives 2 and 3 were based on 20 years of quarterly monitoring.

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(Red)

In General (3)

Comment: We oppose incineration of anything. This is not a viable option for any alternative.

Response: Incineration is an approved and acceptable remedial technology. It has benefits over landfill disposal in that the chemicals are destroyed during the incineration process. The incinerator that would be used for this alternative would be licensed, permitted, and operated such that air emissions are below regulatory levels that are protective of human health and the environment.

In General (4)

Comment: "Disposal off-site" needs clarification. Everywhere off site is in someone else's backyard. One of the problems with toxics is disposal. Saying "off site" is making the problem someone else's problem.

Response: As defined in the Draft FS Report, "off-site" disposal means disposal in a RCRA-permitted landfill. These landfills are designed and operated to federal and state requirements and are protective of human health and the environment. Disposal of material in a RCRA-permitted landfill does not cause environmental problems for someone else.

In General (5)

Comment: We know that this project was funded quickly because of the Hodgkins cases. We object to a report by the Chester County Health Department being slipped into the final report of the Remedial Investigation. This study was originally dated February 14, 1991 and so was available for inclusion in the draft RI. We note the date of the report is now 1993. We will comment on the CCHD's study when it is presented publicly for comment. The unexplained reasons for the Hodgkins cases is a major issue. So far the Hodgkins issue has been handled poorly: first by denial and then by slipping reports into final statements. It needs to be addressed by the USACE head on and resolved. This must be done with public approval or the cleanup will forever be incomplete and without credibility.

Response: The Chester County Health Department's Hodgkins Disease report was included in the Final RI Report at their request and the USACE acted only as a facilitator to get information related to the site out to the public. The RI Report made no statements as to the USACE's agreement or disagreement with the report. The report was simply included and referenced as another study related to the VFGH site. The RI/FS for VFGH is being performed according to CERCLA guidance and the CERCLA process does not provide for epidemiology studies. The

CERCLA process uses environmental data from the site to calculate potential risks, both carcinogenic and non-carcinogenic, from compounds detected at the site. The computed human health risk for the VFGH site was within USEPA limits. Consequently, no changes to the Final RI or Draft FS Reports are warranted because of the Hodgkins Disease issue. However, the USACE is discussing the Hodgkins Disease and epidemiology issues regarding the site with the USAEHA and other government agencies. Also, if anyone has comments on the Hodgkins Disease report, please forward them to the Chester County Health Department at 601 West Town Rd., Suite 290, West Chester, PA 19380.

In General (6)

Comment: We are attaching a two-page paper from Environmental Resources Foundation in Annapolis, MD entitled "The Basics of Landfills - How They are Constructed and Why They Fail." GVA is concerned about covering the ash landfill as opposed to removal of toxic laden ash. We do not want any groundwater pollution nor will we agree to any scenario which allows pollutants to enter French Creek. We do not subscribe to the long term effectiveness of the cover coupled with no monitoring after one year.

Response: We appreciate information on landfill provided by the reviewer. See the response to Question #2.

In General (7)

Comment: We believe that USACE should indicate which alternatives are preferred.

Response: Under CERCLA guidance, potential remedial alternatives and the retained alternatives that are deemed technically and economically feasible, and protective of human health and the environment are presented in the FS Report. The preferred alternatives will be presented in the Draft Decision Document (DD). The Draft DD will be made available for public and TRC comment and discussed at a public meeting before it is finalized.

ORIGINAL (Red)

Responses To Comments On Valley Forge General Hospital
Draft Feasibility Study

Comments by: Mr. Hoddinott, USAEHA
Response by: Woodward-Clyde Federal Services

Paragraph, Page or Figure	Item Number

Page E-2 (1)

Comment: This section states that the process used at this site somewhat differs from the regular superfund process. Since the public has been told that this site is being handled as a superfund site, any differences in the procedures used here must be explained.
Recommendation: Explain how the process used at this site differs from the "regular" superfund process.

Response: Although the site is not on the National Priority List, the FS for this site followed the superfund process. The text will be modified to reflect this. There was not deviation from the Superfund/CERCLA guidance.

Page E-8 (2)

Comment: This section states that only four of the OU's were evaluated in the feasibility study. While the Remedial Investigation may explain why the other four units were dismissed, a brief explanation should be included here.
Recommendation: Explain why only four units are evaluated in this report.

Response: A brief explanation of why the other four OUs were not evaluated in the FS will be included in the Executive Summary and in Section 2.2.

Page E-43, (3)
Table E-1, Page 2

Comment: This table attempts to make a distinction between the soil cap and the geomembrane cap. While some differences exist, the table makes vague statements which definitely stretch the point. One of many examples follows: the statement relating to the likelihood of failure. In reality both of these options

ORIGINAL (Red)

have the same likelihood. If regular O&M is performed, the likelihood of failure is small. Unfortunately the table tries to make the geomembrane cap sound safer, but it only succeeds in giving the reader the impression that regular O&M is not needed for the geomembrane cap.
Recommendation: Explain the differences in the two caps without stretching the reality of the situation.

Response: With regards to the reliability of control and administrative feasibility issues, statements for Alternative #3 (Capping with Geomembrane Drainage Layer) have been revised in the Final FS Report. The revised statements are similar to those presented for Alternative #2.

Page E-2, Table E-53, Page 4 (4)

Comment: This section states that the no action alternative is not protective of human health for OU-3. However, the baseline risk assessment does not show any risk. The reality of the situation is that the no action alternative is protective of human health but it does not meet the ARARs.
Recommendation: Change the notation in this table to indicate that the no action alternative is protective of human health. This comment also applies to OU-4.

Response: Agreed. The suggested changes have been made in the Final FS Report.

Comments by: CPT. Waterbury, USAEHA
Response by: Woodward-Clyde Federal Services

Page E-41 (5)

Comment: The remedial alternatives for cleanup of PCB-contaminated soil should consider the requirements set forth by 40 Code of Federal Regulations (CFR) Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and use Prohibitions. This regulation outlines the requirements for PCB spill cleanup in restricted and non-restricted access areas. Specific standards are provided for recent spills (after 4 May 1987). If the spill is not considered recent, the cleanup standards are to be established by the Environmental Protection Agency, usually through its regional offices.
Recommendation: Consider 40 CFR Part 761, Subpart G, PCB Spill Cleanup Policy as an appropriate ARAR to consider for determining the remedial alternatives at the Transformer Use and Storage Areas (OU-3).

Response: These regulations were considered in the development of the remedial alternatives in the Draft FS Report. Pennsylvania has more restrictive cleanup standards and the Pennsylvania standards dictated the extent of remediation required.

Comments by: J. Whaley, USAEHA
Response by: Woodward-Clyde Federal Services

ORIGINAL (Red)

Page 2-22, Section 2.5 (6)

Comment: The thought processes used to determine ecological risk from exposure to surface waters and sediments from French Creek, Pickering Creek and North Stream are not apparent in this document. Is there a detailed description in the RI document? If so, please refer to the appropriate section of the RI. If not, describe your approach to determining ecological risk for both the aquatic and the terrestrial environments.

Along with the detailed description, include a map of the ecological areas of concern including the aforementioned creeks and streams.

Response: Chapter 8 of the RI Report describes the Ecological Risk Assessment. A sketch of a conceptual site model has been included in Section 2.5 of the Final FS Report.

Comments by: Ms. Peters, USAEHA
Response by: Woodward-Clyde Federal Services

Page 3-16 and 3-48, Table 3-1 and 3-9 (7)

Comment: The National Ambient Air Quality Standards (NAAQS) should not be considered ARARs. The NAAQS specify maximum pollutant concentrations permitted in the ambient air and not source emission limits. The individual states are responsible for implementing regulations limiting emissions from air pollution sources in a particular area in an attempt to meet the NAAQS. Documents such as the State Implementation Plan (SIP) contain air pollutant emission standards which may be ARARs at remedial sites.
Recommendation: Remove the NAAQS from the list of ARARs. In addition to the national and state air regulations investigated, determine if any air-related ARARs are included in the state air toxics and/or RCRA regulations. The following guidance documents developed by the Environmental Protection Agency (EPA) may provide assistance identifying and complying with ARARs: ARARs Fact Sheet, Compliance with the Clean Air Act and Associated Air Quality Requirements (EPA 9234.2-22FS) and Compedium of CERCLA ARARs Fact Sheets and Directives (EPA 9347.3-15).

Response: Changes in the document will be made to show that NAAQ standards are not applicable. State and federal regulations have been included while developing ARARs. Fact Sheets about ARARs have also been reviewed. The appropriate

information from these Fact Sheets have been included in the revised Final FS Report.

Comments by: Mr. Bojarski, USAEHA
Response by: Woodward-Clyde Federal Services

Pages 3-19 to 3-24, Table 3-3 (8)

Comment: Make necessary corrections and update (to present time).
Recommendation: Barium should read 2,000 ug/l under MCL and MCLG, and SDWA MCL TBC should be blank. For Copper, Lead, Nickel and Pentachlorophenol the listed MCL should be replaced by the listed TBC (therefore the TBC). The MCLGs for these chemicals are presently effective. The SDWA MCL TBC for Bis(2-Ethylhexyl)phthalate should read 6 ug/l. The SDWA MCL TBC for Dioxin should read $3x10^{-11}$ ug/l.

Response: Corrections have been made and the Table has been updated in the revised Final FS Report. The concentration of Dioxin mentioned in the Draft FS Report ($3x10^{-5}$ ug/l) is correct. Therefore, no change has been made for the Dioxin concentrations.

Comments by: Mr. Hoddinott, USAEHA
Response by: Woodward-Clyde Federal Services

Page 5-2, Section 5.1.1.1.2 (9)

Comment: This section needs more detail on the cross section of the cap used to estimate the cost and performance. This discussion seems to be based on any old soil; however, the cost estimates and claims of performance seem to indicate the use of a clay cap.
Recommendation: Explain what cross section was used to estimate the cost and performance claims.

Response: More details of the cross section used have been shown in Figure 6-1. Clarification has also been provided in Section 5.1.1.2. The cap proposed is a clay cap.

Comments by: J. Whaley, USAEHA
Response by: Woodward-Clyde Federal Services

Page 6-1, Section 6.2 (10) ORIGINAL (Red)

Comment: Remediation of existing contamination of North Stream is not addressed in this section. Also, remediation considerations specifically dealing with ecological receptors were not addressed. Please consider adding these points to this document.

Response: Review of ARARs, the human health risk assessment, and the ecological risk assessment all concluded that there is no need for remedial action of the North Stream. Ecological receptors in this area are presented in detail in Chapter 8.0 of the Final RI Report. No change to the Draft FS Report is warranted as a result of this comment.

Comments by: Ms. Peters
Response by: Woodward-Clyde Federal Services

Page 6-22, Section 6.2.2.2 (11)

Comment: Air regulations dealing with air stripping may exist. It is unclear if such regulations were investigated.
Recommendations: If no air regulations dealing with air stripping were investigated, research applicable Pennsylvania regulations.

Response: Pennsylvania State Regulation (Pennsylvania Code 25, 135.21(a)(2)) states that the state agency should be informed if the rate of emission of VOCs is more than 50 tons/year (11.42 pounds/hour). Alternative 2 calculations show that VOC emissions from the air stripper are much less than 11.42 pounds/hours and the state standard is met.

Pages 6-28 and 6-30, Sections 6.2.3.2 and 6.2.3.3 (12)

Comment: Excavation of contaminated soil may require the use of a control device system (i.e., foam or water) for fugitive dust.
Recommendations: Include a discussion of possible control devices for fugitive dust from excavation.

Response: A discussion of available fugitive dust control techniques has been added to Sections 6.2.3.2 and 6.2.3.3.

Comments by: Mr. Hoddinott, USAEHA
Response by: Woodward-Clyde Federal Services

Page 7-6, Table 7-2 (13)

Comment: This section states that DDD is the only chemical of concern for the OU-1. However, Table 7-2 states that pesticides and metals were retained as chemicals of concern.
Recommendation: Explain the discrepancy in the tabulated data.

Response: Actually, DDD is the only contaminant of concern in the groundwater. With respect to landfill itself, pesticides and metals are also the contaminants of concern. Table 7-2 has been modified to add the additional chemicals of concern.

Comments by: Mr. Bojarski, USAEHA
Response by: Woodward-Clyde Federal Services

Monitoring Data (14)

Comment: No monitoring data was provided
Recommendation: Include all monitoring data to assist in the review of the FS.

Response: In the revised Final FS Report, monitoring data has been included in Appendix B. Because of the inclusion of this, the "Appendix" section of the document has been reorganized (Appendix A contains the Figures showing the sampling locations and Appendix C contains the calculations).